

IN THE CLAIMS:

Cancel claims 12 and 13 without prejudice or disclaimer.

LISTING OF CLAIMS

1- 10. (canceled)

11. (previously added) A vacuum processing apparatus for applying a designated process on an object to be processed in a vacuum atmosphere, said apparatus comprising:
a processing vessel for applying the designated process to the object introduced thereinto;
a susceptor located in the processing vessel for mounting the object thereon;
a toroidal shaped vacuum pump including a motor therein for sucking exhaust gas from the processing vessel to form a vacuum in the vessel, the toroidal shaped vacuum pump being arranged below the processing vessel and being coaxial with the susceptor, the toroidal shaped vacuum pump defining a column-shaped space that is surrounded by the vacuum pump and that is located below the susceptor; and
a driving mechanism arranged below the susceptor for moving the susceptor up and down, at least a part of the driving mechanism being received within the column-shaped space surrounded by the toroidal vacuum pump.

12 - 13. (canceled)

14. (previously amended) A vacuum processing apparatus for applying a designated process on an object to be processed in a vacuum atmosphere, comprising:

a processing vessel for applying the designated process on the object introduced thereto, the processing vessel being provided, therein, with a susceptor for mounting the object thereon;

a vacuum pump constructed cylindrically as a whole and arranged below the susceptor in the processing vessel so as to be coaxial with the processing vessel, for sucking exhaust gas in the processing vessel thereby to form a vacuum, the vacuum pump including:

- a cylindrical inner housing arranged coaxially with the processing vessel,
- a cylindrical motor stator arranged outside the cylindrical inner housing,
- a number of rotors rotatably arranged with respect to the cylindrical motor stator,
- a cylindrical outer housing arranged outside the rotors, and
- a number of stators fixed to the cylindrical outer housing so as to each extend between the adjacent rotors; and

a driving mechanism arranged below the susceptor, for moving it up and down, wherein the vacuum pump is arranged around at least a portion of the driving mechanism coaxially therewith.